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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,874	03/28/2001	David J. Corisis	3770.3US (97-0332.2)	2037

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EXAMINER

QUINTO, KEVIN V

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,874

Applicant(s)

CORISIS ET AL.

Examiner

Kevin Quinto

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P.S.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,7,9-13,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6,7,9-12 and 15 is/are allowed.
- 6) ☒ Claim(s) 13 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 24 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (USPN 5,468,991).

3. In reference to claim 13, Lee et al. (USPN 5,468,991, hereinafter referred to as the "Lee" reference) discloses similar devices in several of its figures. Figures 3, 4, and 6 each illustrate an integrated circuit package with a semiconductor die and a lead frame. Each lead frame has a plurality of conductors; at least some of which are coupled to the semiconductor die. The semiconductor die and portions of the plurality of conductors in each of these figures is encapsulated by an insulating material. In figures 3, 4, and 6, there is at least one alignment feature (21 in figure 3, not labeled in figures 4 and 6) formed in a portion of the lead frame separate from the conductors which is at least partially external to the insulating material and electrically isolated from the plurality of conductors.

4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Chia et al. (USPN 5,521,427).

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5. In reference to claim 13, Chia et al. (USPN 5,521,427, hereinafter referred to as the "Chia" reference) discloses similar devices in several of its figures. Figures 2 and 3-6 each illustrate an integrated circuit package with a semiconductor die and a lead frame. Each lead frame has a plurality of conductors; at least some of which are coupled to the semiconductor die. The semiconductor die and portions of the plurality of conductors in each of these figures is encapsulated by an insulating material. There is at least one alignment feature (at the corner of each device) which is formed in a portion of the lead frame separate from the conductors which is at least partially external to the insulating material and electrically isolated from the plurality of conductors.

6. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (USPN 5,728,601).

7. In reference to claim 13, Sato et al. (USPN 5,728,601, hereinafter referred to as the "Sato" reference) discloses similar devices in several of its figures. Figures 4(A)-4(C), 6(A)-6(D), 7(A)-7(C), 8(A)-8(B), and 9, illustrate an integrated circuit package with a semiconductor die and a lead frame. Each lead frame has a plurality of conductors; at least some of which are coupled to the semiconductor die. The semiconductor die and portions of the plurality of conductors in each of these figures is encapsulated by an insulating material. In all of the figures, there is at least one alignment feature (23b in figures 4(A)-4(C), 6(A)-6(D), 7(A)-7(C), 8(A)-8(B), and 33b in figure 9) formed in a portion of the lead frame separate from the conductors which is at least partially

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external to the insulating material and electrically isolated from the plurality of conductors.

Allowable Subject Matter

8. Claims 6, 7, 9, 10, 11, 12, and 15 are allowed.
9. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter: the examiner is unaware of any prior art which suggests a semiconductor device with an alignment feature along the edge of the device which is encapsulated by an insulating material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quinto whose telephone number is (703) 306-5688. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

KVQ
May 19, 2003

A handwritten signature, possibly reading "KVQ", is located in the lower-left quadrant of the page. The signature is written in dark ink and consists of several fluid, connected strokes.